



Interim Guidance about Marburg Virus Infection for U.S. Citizens Living Abroad

U.S. citizens living abroad should be aware that on March 23, 2005, the World Health Organization (WHO) confirmed Marburg virus (family Filoviridae, which includes Ebola virus) as the causative agent of an outbreak of viral hemorrhagic fever (VHF) in Uige Province in northern Angola. Testing conducted by CDC's Special Pathogens Branch identified the virus in 9 of 12 specimens from patients who died during the outbreak. According to WHO reports, a total of 140 cases (with 132 deaths) were identified during October 1, 2004–April 1, 2005. (For current numbers of cases, see [WHO's website](http://www.who.int/en/) at <http://www.who.int/en/>). Approximately 75% of the reported cases occurred in children younger than 5 years of age; cases also have occurred in adults, including health-care workers. Predominant symptoms have included fever, hemorrhage (bleeding), vomiting, cough, diarrhea, and jaundice (yellow skin and eyes).

As part of the public health response, CDC has sent personnel to join the WHO-coordinated international response team to assist with epidemiologic investigation, infection control, and laboratory diagnosis. CDC in Atlanta also will continue to provide laboratory and other scientific and logistical support to the Ministry of Health of Angola. In addition, on March 25, CDC posted an outbreak notice on its website to inform travelers about the outbreak (available at <http://www.cdc.gov/travel/>). This website will be updated regularly as new information becomes available. No U.S. travel restrictions to the affected area are recommended at this time.

Overview of Marburg Hemorrhagic Fever

Marburg hemorrhagic fever is a rare viral disease that occurs primarily in countries in East and Central Africa. The current outbreak in Angola is the first report of Marburg hemorrhagic fever since 1998–2000, when the largest known outbreak occurred in the Democratic Republic of Congo, resulting in 149 cases and 123 deaths.

The virus has the potential to spread from person to person, especially among health-care staff and family members who care for patients with Marburg VHF. After an incubation period of 5–10 days, the disease usually presents with sudden fever, chills, and muscle aches. Around the fifth day after onset of symptoms, a skin rash can occur. Nausea, vomiting, chest pain, a sore throat, abdominal pain, and diarrhea may follow. Symptoms become increasingly severe and may include jaundice, severe weight loss, mental confusion, shock, and multi-organ failure.

The virus is believed to be transmitted from an unknown animal host to humans. Humans can infect other humans through contact with blood or body fluids (e.g., saliva, urine). People who have close contact with a human or nonhuman primate infected with the virus are at risk. Such persons include laboratory or quarantine facility workers who handle nonhuman primates that have been associated with the disease. In addition, hospital staff and family members who care for patients with the disease are at risk if they do not use proper [barrier nursing techniques](#). These precautions include wearing protective gowns, gloves, and masks, in addition to wearing eye protection (e.g., eye glasses) or a face shield.

The likelihood of contracting any VHF, including Marburg, is considered extremely low unless there has been direct contact with the body fluids of symptomatic infected persons or animals, or objects that have been contaminated with body fluids. The cause of fever in persons who have traveled or live in areas where VHF is present is more likely to be a common infectious disease, but such persons should be evaluated by a health-care provider to be sure.

CDC Recommendations

Persons living in areas affected by Marburg hemorrhagic fever should observe the following measures to help avoid illness.

- As with other infectious illnesses, one of the most important preventive practices is careful and frequent handwashing. Cleaning your hands often, using soap and water (or waterless alcohol-based hand rubs when soap is not available and hands are not visibly soiled with blood or body fluids), removes potentially infectious materials from your skin and helps prevent disease transmission. When wearing gloves, wash the gloves with soap and water before removing them, and then wash your hands.
- Avoid contact with dead animals, especially primates.
- Do not eat “bushmeat” (wild animals, including primates, sold for consumption as food in local markets)
- To minimize the possibility of infection, observe [barrier techniques](#) when in close contact with a person or an animal suspected of having Marburg virus infection. These precautions include wearing protective gowns, gloves, and masks, in addition to eye protection (e.g., eye glasses) or a face shield. Sterilization and proper disposal of needles and equipment, and proper disposal of patient excretions are also important to prevent the spread of infection.

If you think you have Marburg virus infection or symptoms compatible with Marburg VHF

If you or your family members become ill with fever or develop other symptoms such as chills, muscle aches, nausea, vomiting, or rashes, visit a health-care provider **immediately**. The nearest U.S. Embassy or Consular Office can help you find a health-care provider in the area. You are encouraged to identify these resources in advance. When traveling to a health-care provider, limit your contact with others. All other travel should be avoided.

After your return

Persons returning from the affected area should monitor their health for 10 days. Any traveler who becomes ill, even if only a fever, should consult a health-care provider **immediately** and tell him or her about their recent travel and potential contacts. ***Tell the provider about your symptoms prior to going to the office or emergency room so arrangements can be made, if necessary, to prevent transmission to others in the health-care setting.***

Additional Information

- For more information about the outbreak in Angola, see the MMWR report at <http://www.cdc.gov/mmwr/pdf/wk/mm54d330.pdf>. and the WHO website at <http://www.who.int/en/>
- For more information about CDC's health recommendations for travel to Central Africa, see <http://www.cdc.gov/travel/cafrica.htm>.
- For more information about Marburg hemorrhagic fever, see <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/marburg.htm>.
- For information about viral hemorrhagic fevers and precautionary measures, see <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/disinfo.htm>.
- For health-care workers who will be working with VHF patients in African healthcare settings, CDC in conjunction with the WHO has developed practical, hospital-based guidelines, entitled “[Infection Control for Viral Haemorrhagic Fevers in the African Health Care Setting](#)” (<http://www.cdc.gov/ncidod/dvrd/spb/mnpages/vhfmanual.htm>).